

Title	The Quantitative Determination of Arsenic in Sea-Water
Author(s)	Ishibashi, Masayoshi; Shigematsu, Tsunenobu; Nakagawa, Yasuharu; Ishibashi, Yoshihiro
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characteristics.

The values of ϵ and $\tan \delta$ are also very much sensitive to the temperature. The temperature characteristics shows that both ϵ and $\tan \delta$ become larger with the rise of temperature.

7. The Quantitative Determination of Arsenic in Sea-Water

*Masayoshi Ishibashi, Tsunenobu Shigematsu, Yasuharu Nakagawa
and Yoshihiro Ishibashi*

(Ishibashi Laboratory)

The authors have quantitatively determined arsenic in sea-water by Gutzeit method by the following procedure; 1~2 L of sea-water was taken, added 20 mg of Fe^{+++} as FeCl_3 solution, then neutralized with NH_4OH and allowed to stand for 2~3 days. Arsenic in the sample was absorbed by $\text{Fe}(\text{OH})_3$ and its coprecipitation is nearly complete. The precipitate was filtered and dissolved in 30 ml of H_2SO_4 (1:9). This solution was transferred to As determination apparatus, and then arsenic was quantified by Gutzeit method. The results are shown in the following table.

Sea-water		As content γ/L (mean value)	
32.5°N, 135°E	Cl=19.10% (Aug. 20 th. 1949)	3.3	
33°42'40"N, 135°20'E	Cl=19.25% (Feb. 21 th. 1950)	6.0	
35°44'46"N, 135°30'E	Cl=19.12% (Apr. 27 th. 1950)	4.0	
33°42'38"N, 135°19'54"E	Cl=18.77% (Oct. 17 th. 1950)	3.0	

From the above results, As content is found to be 3~6 γ/L , and the mean value 4 γ/L .

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8. The Quantitative Determination of Vanadium in Sea-Water

Masayoshi Ishibashi, Tsunenobu Shigematsu and Yasuharu Nakagawa

(Ishibashi Laboratory)

Vanadium in sea-water has been studied by Ernst and Hörman (Nathr, Ges. Wiss. Göttingen. (1936) (ii) 1). They determined V spectroscopically with the material concentrated with $\text{Fe}(\text{OH})_3$ as carrier, and found 0.3 γ of V per L sea-water.

The authors quantified V in sea-water colorimetrically by phosphotungstate me-